

REC'D
3-23-06
F.B.

Ciba



March 22, 2006

Mr. Frank Battaglia (2 copies)
USEPA Region I
Office of Site Remediation and Restoration (HBT)
JFK Federal Building
Boston, MA 02203

**Re: Quarterly Progress Report for October, November and December 2005
Ciba Specialty Chemicals, 180 Mill Street, Cranston, RI 02905
EPA ID RID001194323**

Dear Mr. Battaglia:

As required by the modified Consent Decree (CD) of September 28, 1992, I am submitting a stabilization progress report for the forth quarter of 2005.

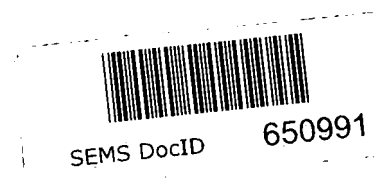
1.0 SUMMARY

Stabilization Plan (IRM)

- **Contaminated groundwater in the Production Area (AOC 13)** -- The groundwater extraction wells 120,130, and the pretreatment system are operating as designed. Extraction well 110 is temporarily down while a special well sampling is performed at the site..

Since initiation on September 29, 1995, the groundwater stabilization pretreatment plant has processed approximately 304 million gallons of contaminated groundwater meeting the permit wastewater discharge limits for the City of Cranston, Rhode Island.

- **Soil in the Production Area (SWMU 11)** – EPA approved the removal of all SVE/Thermal Oxidizer equipment and abandonment of the SVE wells. Equipment has been dismantled and the stack removed, gas and electric disconnected. Well lines removed and wells decommissioned.



2.0 DISCUSSION

SITEWIDE MONITORING PROGRAM

Two of three extraction wells are pumping a total of approximately 27 GPM. The following two requests were approved by the USEPA:

- On a temporary basis shut down well 110 and monitor selected wells along the bulkhead to observe changes in groundwater composition moving to the Pawtuxet River.
- Perform additional sampling on monitor well MW-002S to confirm chemical composition of the well's groundwater.

Ciba performed 6 sampling and analyses of well MW-002S in 2005. The initial sampling as part of the overall site wide monitoring is included in Table 1. The additional 5 special samplings are shown in Table 2. This information along with a history of the influent to the treatment plant and graphs of wells along the bulkhead are included in the attached appendix.

The following briefly summarizes the results of the special sampling:

Monitor well MW-002S became a focus of attention when the April 2005 results for chlorobenzene exceeded the MPS (see Table 1). Therefore, Ciba contracted with RI Analytical to sample and analyze over the next several months the groundwater at MW-002S. Results for chlorobenzene (the contaminant of concern) were at or below the MPS (see Table 2).

Wells along the bulkhead were sampled to monitor groundwater changes due to extraction well 110 shut down. Two of the four wells did show increases in o-chlorotoluene and chlorobenzene, however, none of the increases exceeded the respective MPS. See attached graphs for a multi year history.

Ciba has expressed interest in the past for a meeting with both the USEPA and RIDEM to discuss the future remediation activities at the site. Ciba will contact the respective agencies to arrange a meeting.

OPERATIONS

The Granulated Activated Carbon (GAC) system continued to operate as planned throughout the reporting period. No carbon changes were done during the reporting period.

Extraction well's 120 and 130 operated throughout the reporting period. Extraction well 110 was shut down on July 28, 2005. All well head lines were cleaned during the reporting period. Rehabilitation of well 130 was completed in October 2005.

The SVE/Thermal Oxidizer equipment is dismantled; stack removed, gas and electric disconnected. Well lines were removed and wells decommissioned. The wells were permanently closed in October 2005 by Boart Longyear Company. Sale of the burner and equipment is on going, however, the system will be scrapped in 2006 if no potential buyer is found.

3.0 SCHEDULE OF ACTIVITIES

- Meet with respective agency's to discuss the 2005 groundwater monitoring results.

If you have questions or need additional information, please contact me at 732 914-2537 or fax 732 914-2909.

Sincerely,

A handwritten signature in black ink, appearing to read "Barry Cohen", followed by a long horizontal flourish line.

Barry Cohen
Compliance Manager

Attachments:

Monthly Report Distribution List

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(617) 918-1362

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RIDEM
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235 Promenade Street , Providence, RI 02908-5025
(401) 222-2797 Ext. 7105

Dayna Jordan
Ciba Specialty Chemicals Corp.
Environmental Matters Agreement
Tarrytown, NY

Appendices

- 1. Tables 1 and 2 monitoring well data**
- 2. Monitoring well locations and overlay onto a contour map**
- 3. Influent contaminant concentrations of TTO to the treatment plant: 1995-present**
- 4. Time series graphs of monitoring well contaminant concentrations**

Tables 1 and 2

Appendix 1

Table 1
Monitoring Results for April 11-12, 2005
Chemicals Of Concern
(as ppb)

Well Designation	Well Number	MPS	94	1700	1500	1700	76
			1,2-Dichloro-Benzene	Chloro-Benzen e	O-Chloro-Toluene	Toluene	Xylenes
Upgradient	MW-004S		38	180	280	1 U	13
	MW-012S		1 U	1 U	1 U	1 U	1 U
	MW-021S		1 U	2	100	1	1 U
Bulkhead	MW-001S		1 U	410	10 U	10 U	10 U
	MW-002S		50 U	2800	50 U	160	50 U
	P-035S		10 U	460	10 U	10 U	10 U
	P-036S		12	220	31	10 U	10 U
	P-037S		10 U	220	10 U	10 U	10 U
	P-038S		1 U	1 U	1 U	1 U	1 U
In-River	SW-110		1 U	1 U	1 U	1 U	1 U
	SW-120		1 U	40	1 U	1 U	1 U
	SW-130		NA	NA	NA	NA	NA
Extraction	PW-110		1 U	20	21	1 U	1 U
	PW-120		3600	3100	100	64	50 U
	PW-130		17	230	110	11	10 U

U = Non-detect with detection limit given

J = Estimated value

NA = Not Available, sample not taken. Well blockage

MPS Exceedance

Table 1 presents the results of the annual sitewide sampling performed in April 2005. The previous annual sampling in 2004 produced results showing all wells meeting the MPSs for all contaminants. The exceedance in MW-002S for chlorobenzene was unexpected and Ciba pursued additional samplings for any confirmation. These results are presented in Table 2.

Table 2
Special Monitoring Results for 2005
Chemicals Of Concern
(as ppb)

Sample Date	Well Number	MPS	94	1700	1500	1700	76
			1,2-Dichloro-Benzene	Chloro-Benzene	O-Chloro-Toluene	Toluene	Xylenes
7/26/05	MW-002S		31	740	82	15	13
8/26/05			29	740	69	15	10 U
9/26/05			1 U	1	1 U	1 U	1 U
11/29/05			30	1700	42	79	21
12/28/05			22	1100	38	73	10 U
8/26/05	P-035S		10 U	300	110	10 U	10 U
9/26/05			19	750	54	28 U	10 U
11/29/05			18	480	84	10 U	12
12/28/05			11	260	58	10	10 U
8/26/05	P-036S		10 U	1100	80	10 U	10 U
9/26/05			1 U	55	15	1 U	1 U
11/29/05			10 U	820	54	10 U	10 U
12/28/05			1	17	18	1 U	1 U
8/26/05	P-037S		2	82	35	1 U	1 U
9/26/05			2	800	25	2	4
11/29/05			1	36	20	1 U	1 U
12/28/05			4	750	87	1 U	7
8/26/05	P-038S		1 U	1 U	1 U	1 U	1 U
9/26/05			16	460	80 U	2	11
11/29/05			1 U	2	1 U	1 U	1 U
12/28/05			1 U	1	1 U	1 U	1 U

U = Non-detect with detection limit given

Table 2 presents the five special sampling results performed on well MW-002S and the four sampling results on the wells along the bulkhead to the Pawtuxet River. Ciba arranged for the MW-002S sampling to confirm chemical concentrations in 002S. This was necessary to determine whether chlorobenzene concentrations were meeting the MPS. Results did demonstrate that the MPS is being met.

Table 2 also presents the results of the four monitoring wells along the bulkhead. These results were requested by the USEPA when Ciba's request to shut down one of three extraction wells was granted. The contaminant flux to the Pawtuxet River was observed to increase in the area of the down extraction well 110, though no result exceeded the MPS for any chemical of concern.

**MONITORING WELL LOCATIONS OVERLAYED ON A RECENT
POTENTIOMETRIC CONTOUR MAP**

Appendix 2

**MONITORING WELL LOCATIONS AND OVERLAY ONTO A RECENT
POTENTIOMETRIC CONTOUR MAP**

Appendix 2

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Special Monitoring Results for 2005

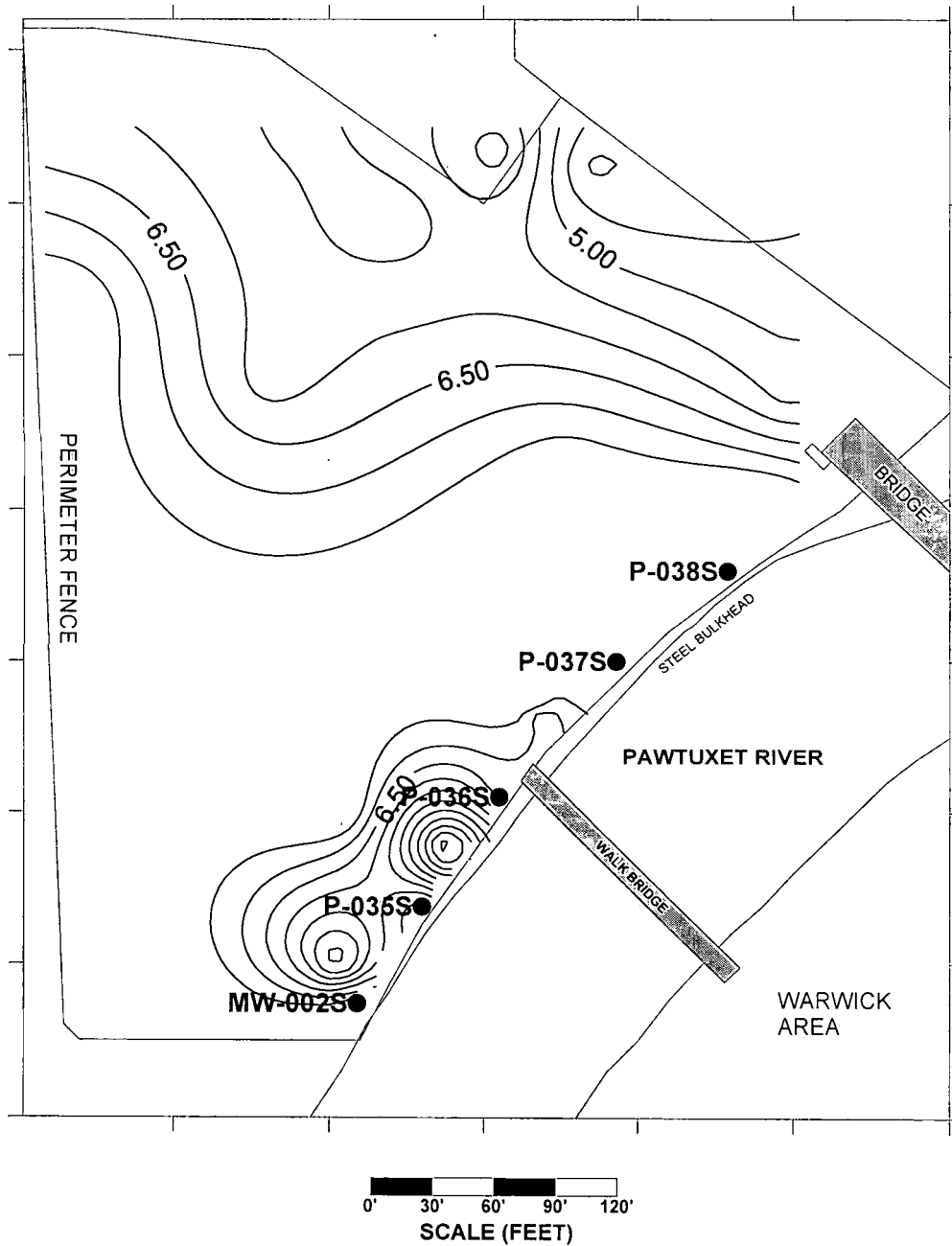
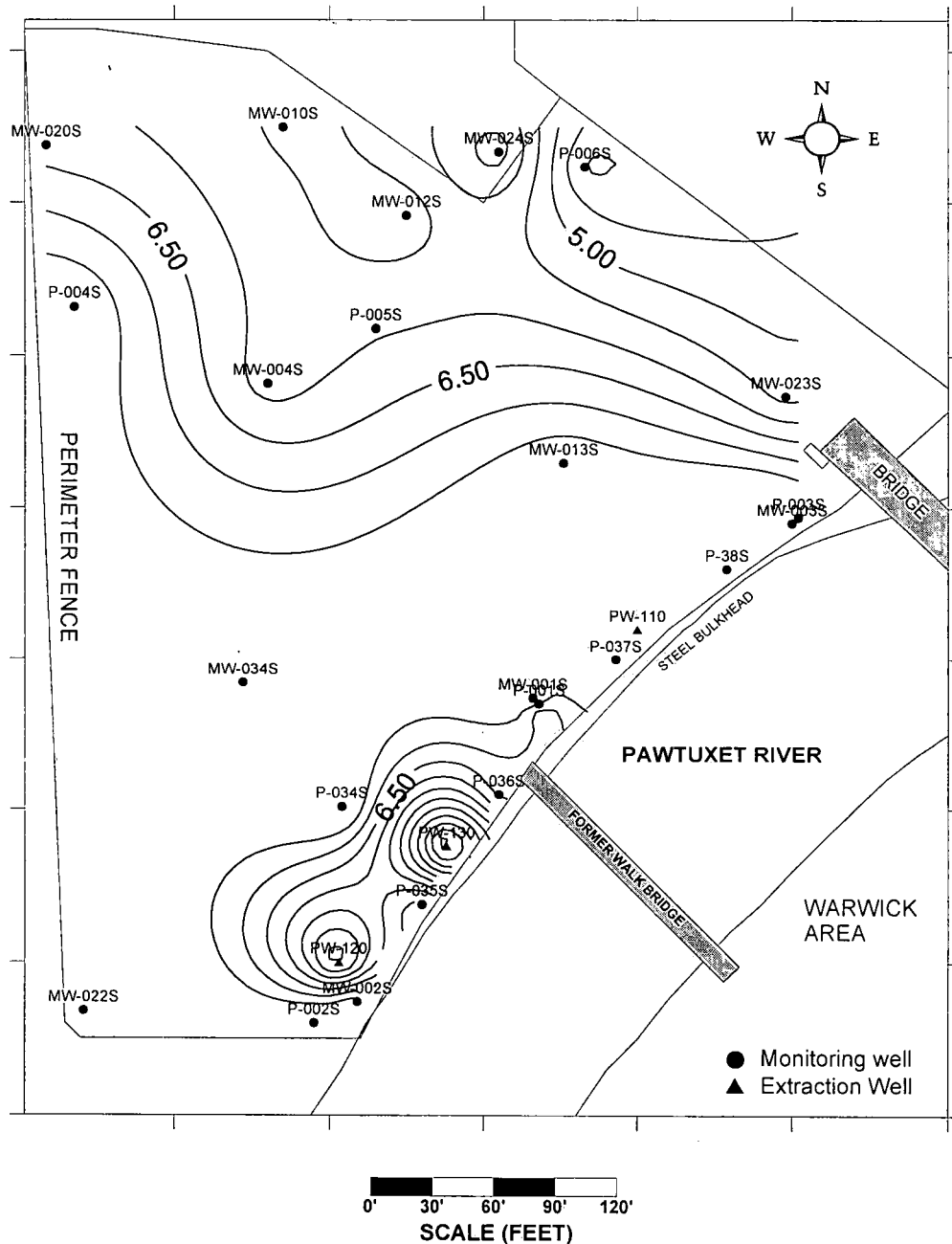


Figure 2

CIBA SPECIALTY CHEMICALS CORPORATION
CRANSTON, RI FACILITY
FORMER PRODUCTION AREA

Potentiometric Surface Map
November 14, 2005



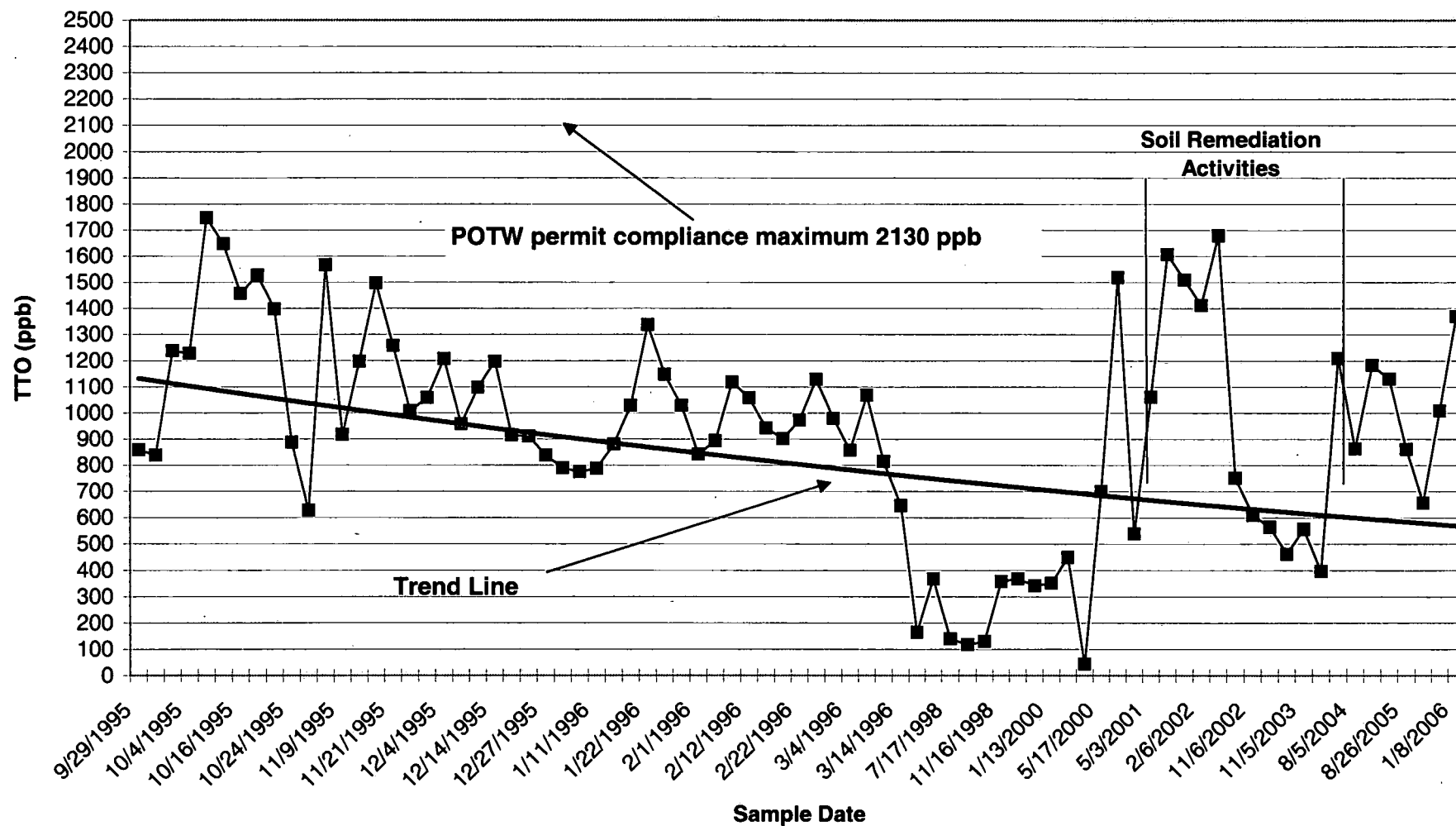
INFLUENT TOTAL TOXIC ORGANICS (TTO)

The influent to the treatment plant is plotted against concentration of the sum of the total toxic organics (TTO) as measured by USEPA method 8260 including o-chlorotoluene. Increases were observed during the period of soil remediation in 2002. Since the shutdown of well 110 on July 28, 2005, some fluctuation has occurred while recent results show increase in concentration of contaminants to the treatment facility as would be expected by eliminating the dilution effect of 110.

Appendix 3

Chart TTO

**Ciba Specialty Chemicals Corporation
180 Mill Street, Cranston, RI
Influent TTO**



GRAPHS OF MONITORING WELLS

Graphs were prepared for the following wells:

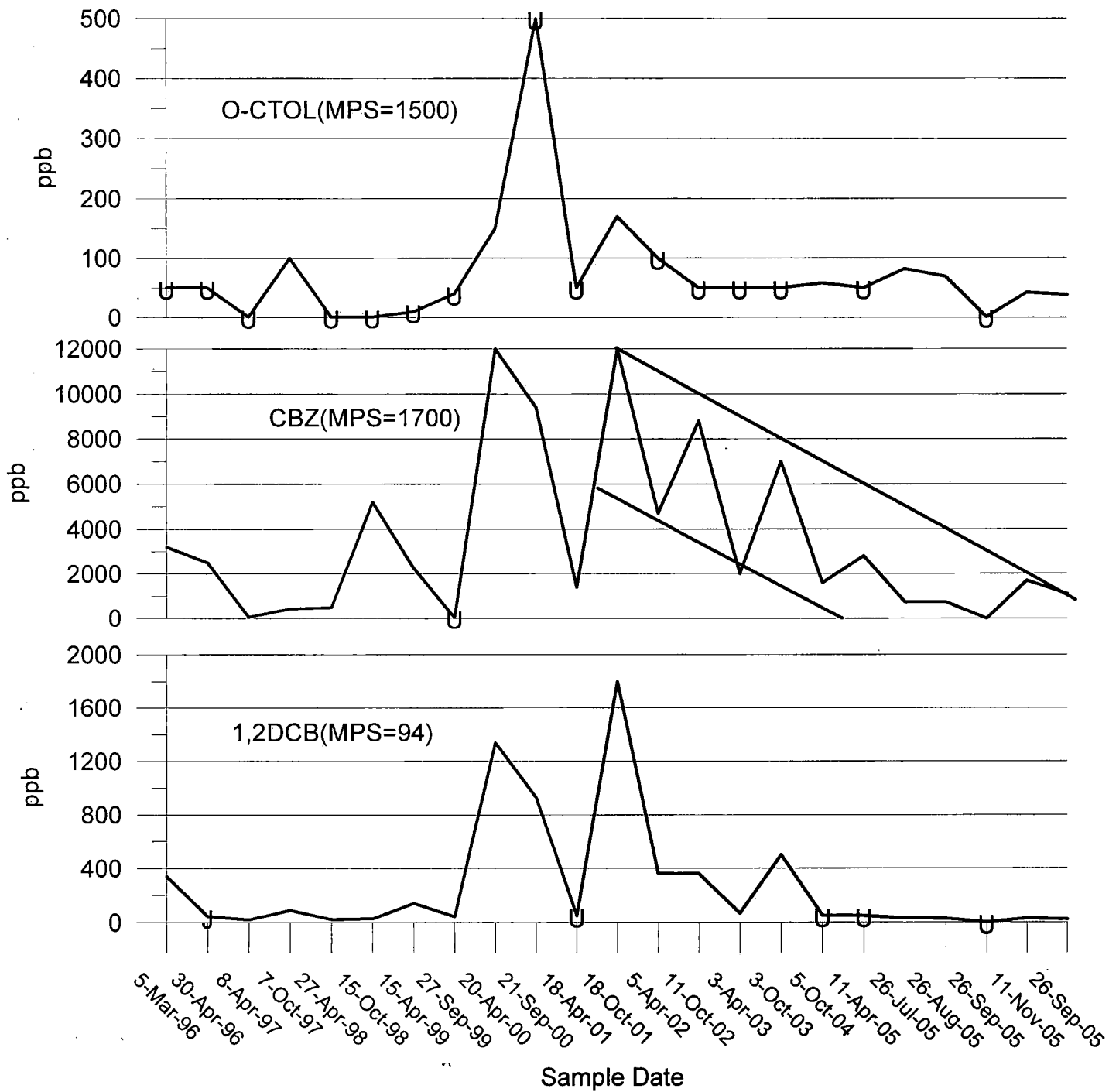
- **MW-002S**
- **P-035S**
- **P-036S**
- **P-037S**
- **P-038S**

Appendix 4

Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

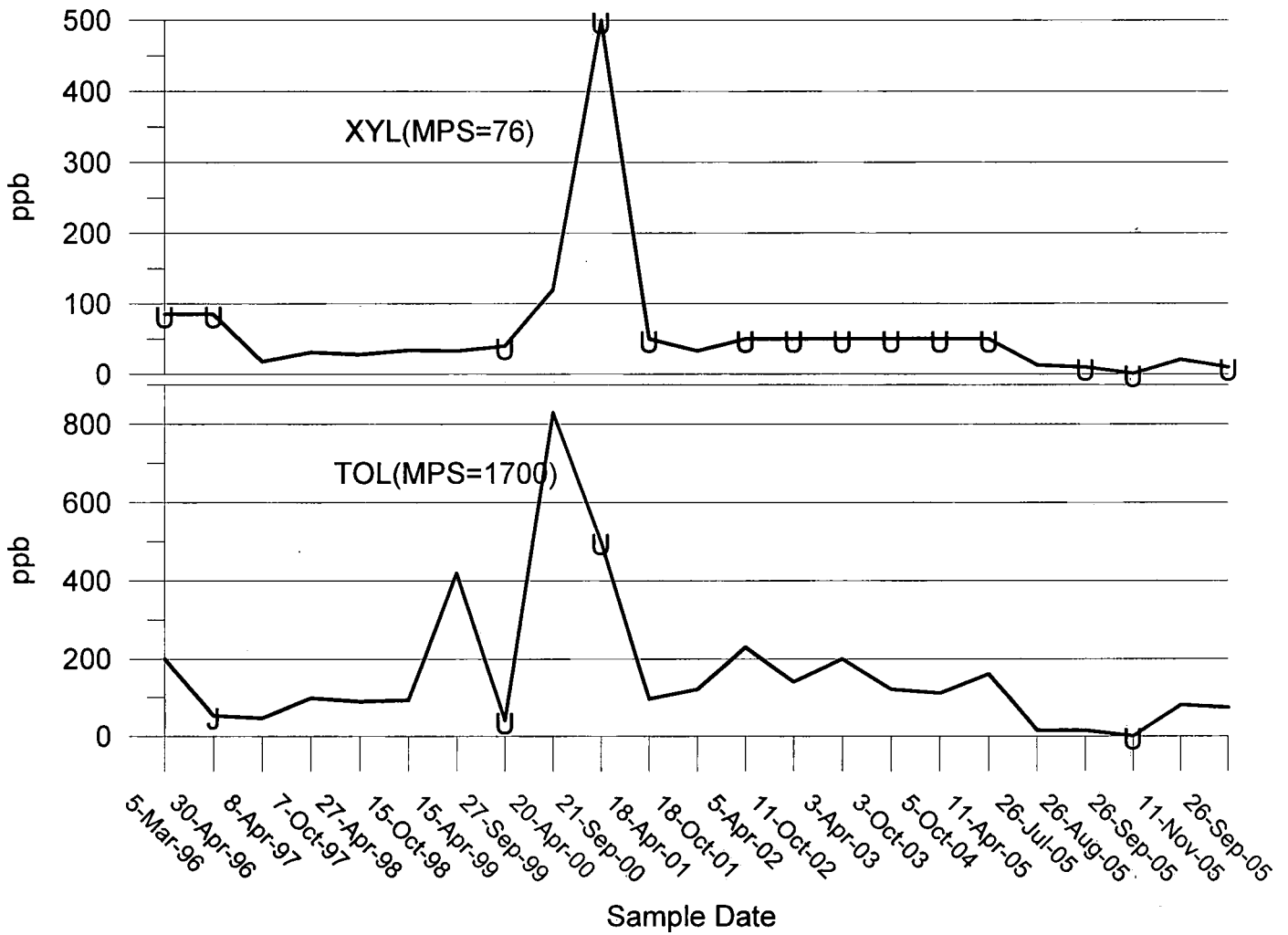
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well MW-002S
Along Bulkhead

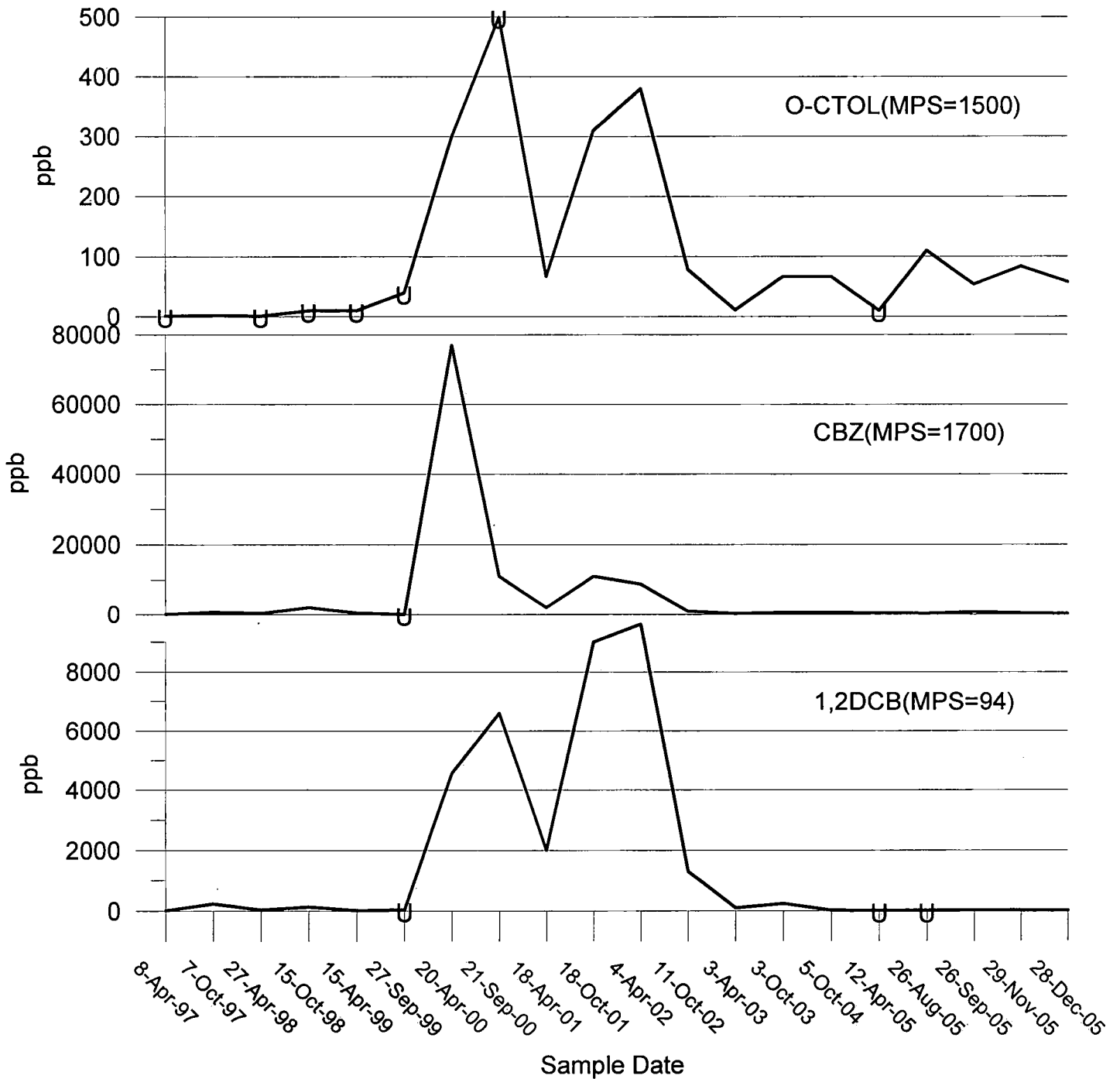
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

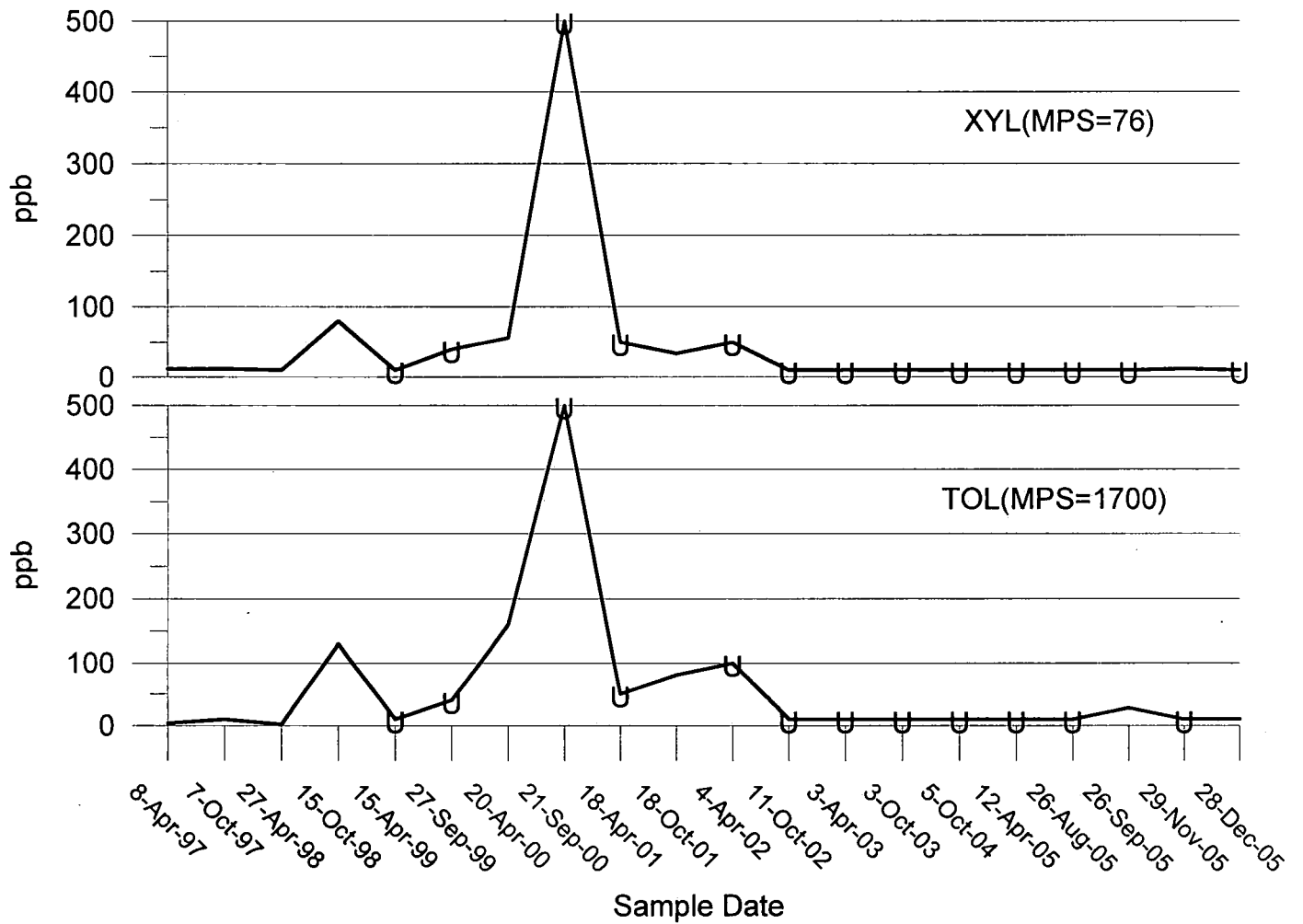
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-035S
Along Bulkhead

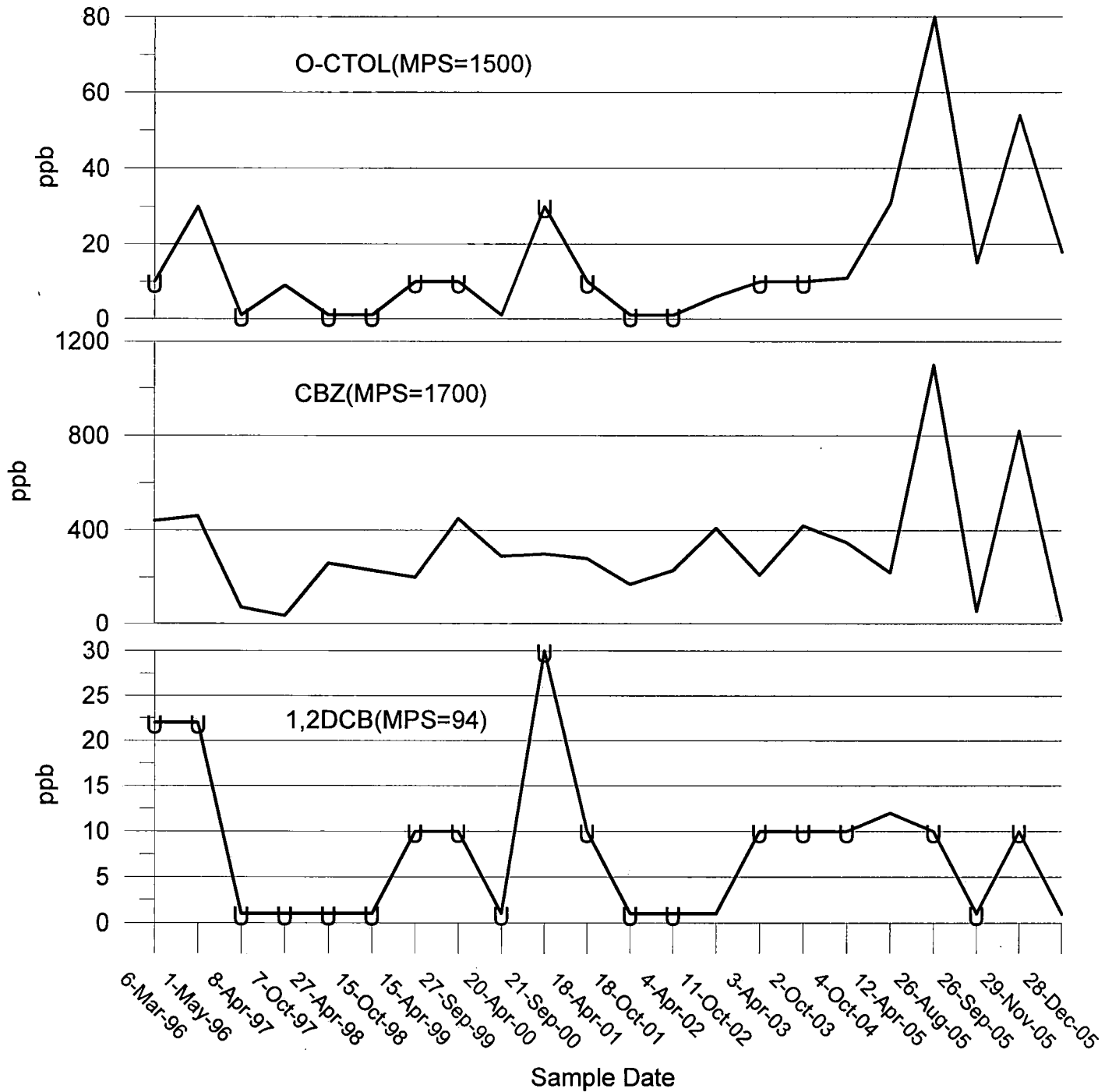
"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

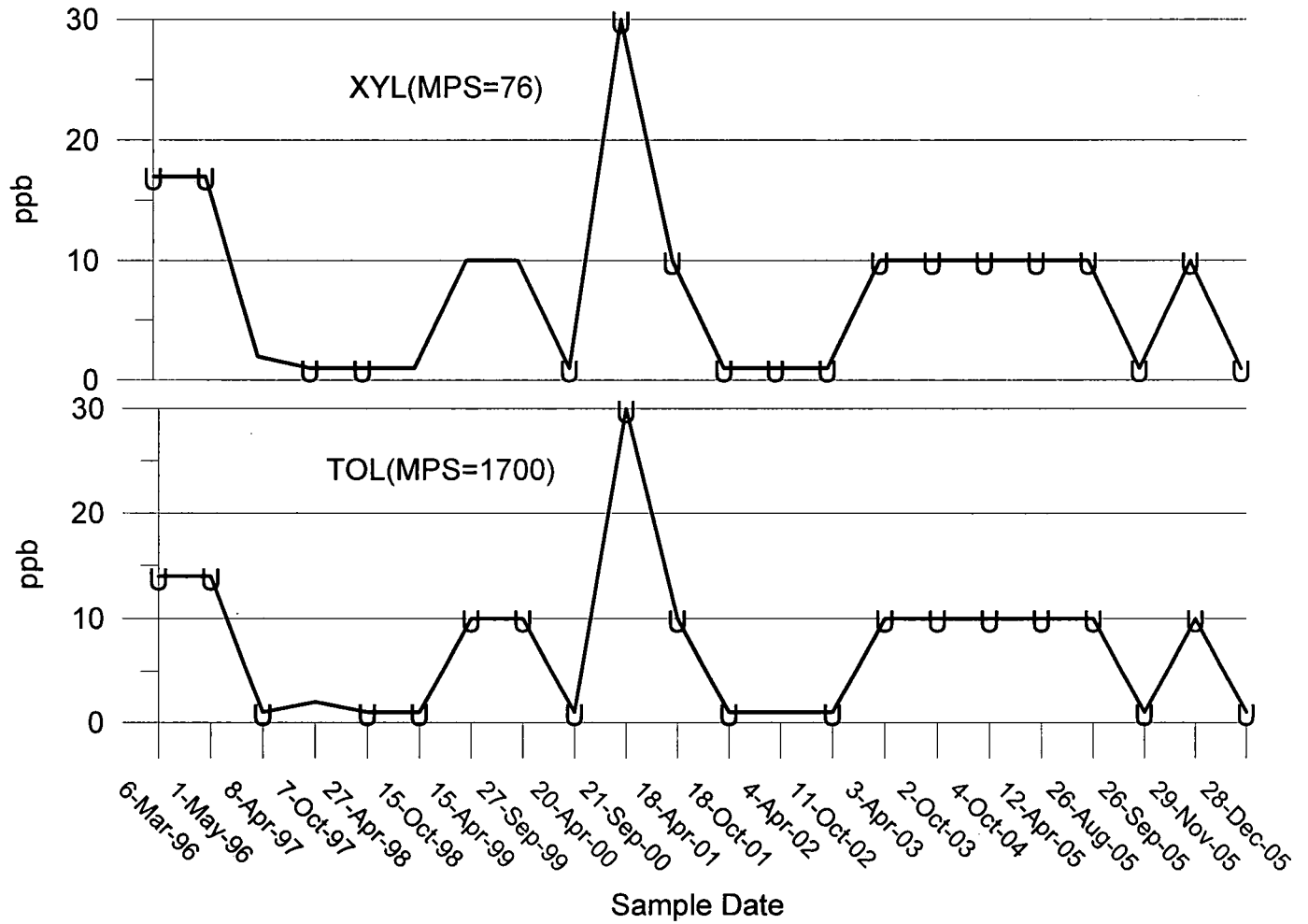
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MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-036S
Along Bulkhead

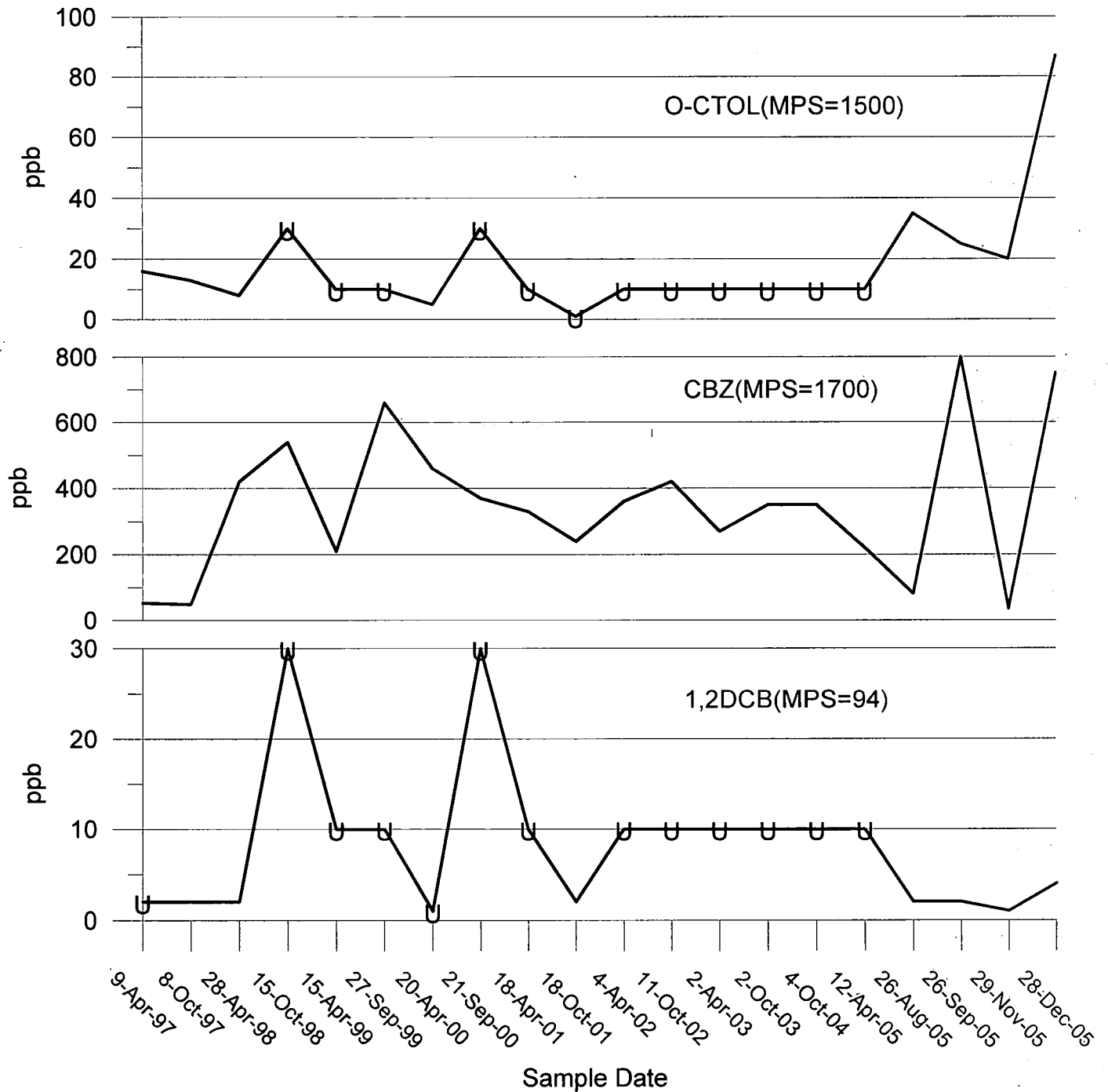
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Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

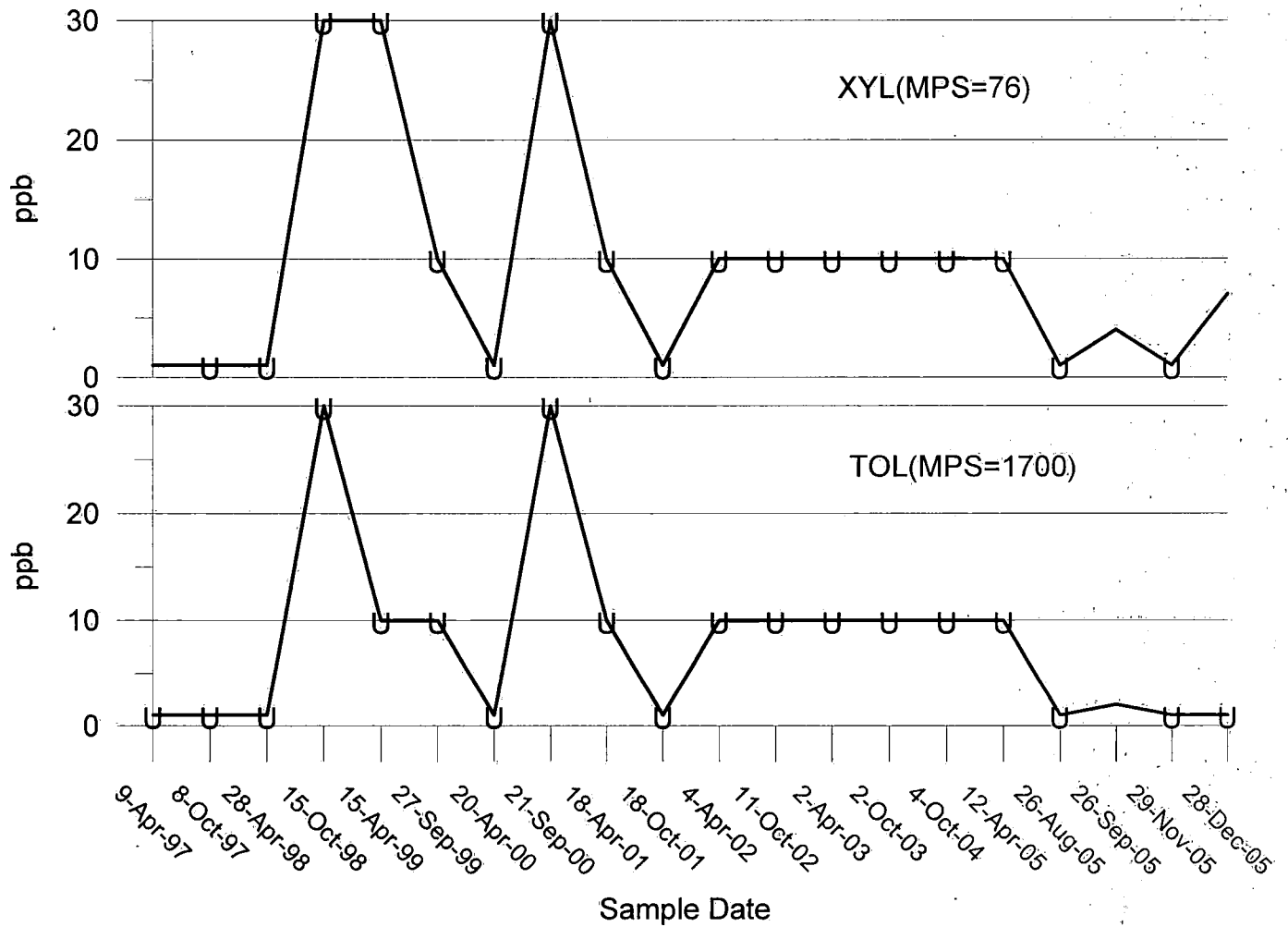
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MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-037S
Along Bulkhead

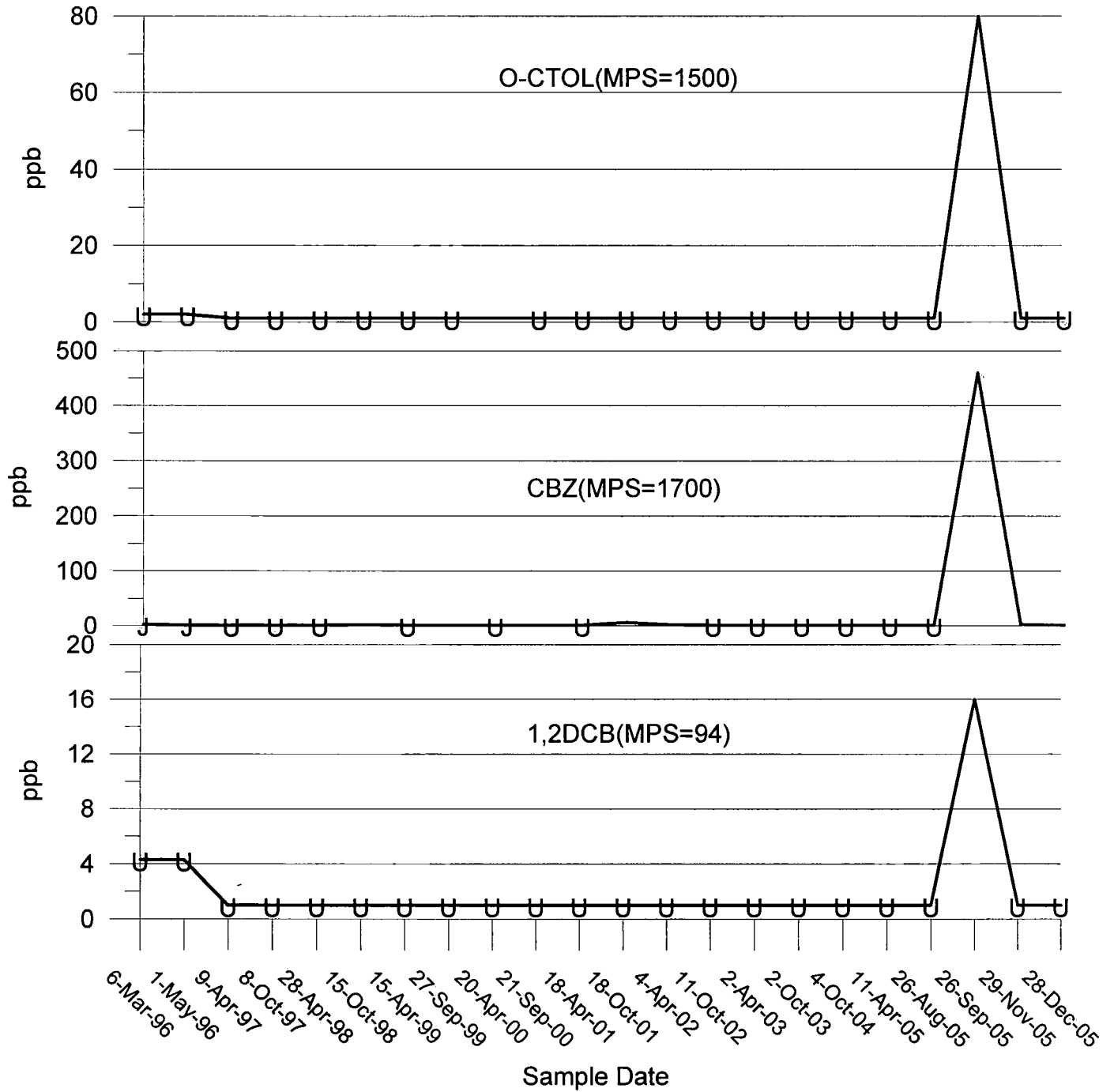
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"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

"U"=Nondetect
"J"=Estimated Value
MPS=Media Protection Std.



Ciba Specialty Chemicals Corp
Cranston Rhode Island Facility
Time-Series Graph
Semiannual Monitoring

Well P-038S
Along Bulkhead

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